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PHYTOLOGIST.

A BOTANICAL JOURNAL.

Ὡς ἐμεγαλύνθη τὰ ἔργα σου, Κύριε!—πάντα ἐν σοφίᾳ ἐποίησας.

ΨΑΛΜ. ργ΄. 24.

Benedicite universa germinantia in terra Domino; laudate et superexaltate Eum in secula.—*Hymn. iii Puer.* v. 76.

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NOTES ON NORFOLK PLANTS.

By W. Winter.

Nat. Ord. Ranunculaceæ.—*Thalictrum minus* I find about Cortin, in Suffolk?, about three miles from Lowestoft; also at Garlestone; in both places sparingly, on sandhills.

Anemone ranunculoides. This very rare species has been long known to grow in various woods, meadows, and even by roadsides, in Norfolk (see 'Phytologist' for September, 1861). The learned author of the 'English Flora,' though connected with this county (Norfolk), does not refer to any of the stations which have been long known, but only recently published. He asserts the true nativity of the plant in strong terms:—"This having never, as far as can be learned from old writers, been a garden plant in England, cannot safely be asserted to have escaped from gardens. I have wild specimens from the excellent author of the 'Flora Anglica,' and from the late Mr. G. Anderson, two men whose accuracy and judgment are as unimpeachable as their honesty" (Eng. Fl. vol. iii. pp. 38, 39). Sir J. E. Smith enters King's Langley, Herts, and Wrotham, Kent, on the authority of Hudson; and Abbot's Langley on that of Mr. G. Anderson. Sir W. J. Hooker quotes these three stations without the authority, and subjoins "scarcely a native." Honourable knights occasionally differ, as do learned doctors. It is worthy of remark that both the honourables were, at all events in early life, connected with Norfolk, if not natives of this county. Mr. Dawson Turner, another botanical notability, does not appear to have been aware of the existence of this rarity in his native county.

This Anemone has very recently been detected in another locality in Herts, but several miles from either of its two recorded stations. The writer of this has seen a specimen which grew at Scot's Bridge, near Rickmansworth. In this last-mentioned locality there is abundance of the plant, associated with the blue Anemone, *A. apennina*, which is said to grow at Wimbledon, but on authority not unimpeachable (see Eng. Fl. p. 38). "In Wimbledon woods (where it still grows), *Mr. Rand.*" Hooker says, "In Wimbledon woods, growing with *Eranthis hyemalis.*" I have seen it in Wimbledon garden growing with the winter Aconite (*E. hyemalis*), and I should like much to see

BRITISH MUSEUM

it growing in Wimbledon woods. N.B. The fact of its growth in Wimbledon woods is not at all startling, but the authority is not sufficient for the establishment of its sylvan station.

One of the Norfolk localities for this rare plant is in the grounds of Wheatacre Rectory, a place about three miles from Gillingham.

In 'Cybele,' vol. i. p. 75, there occurs the following notice of this species:—"Alien. Scarcely a naturalized plant in Britain, though introduced into Hudson's 'Flora Anglica,' and retained by succeeding authors. The counties of Kent, Hertford, Suffolk, Salop, and Nottingham have been indicated for this species; that of Berwick turning out to be an error, through the mistaking of *Ranunculus auricomus* for the present plant."

This, it must be admitted, is an odd mistake, and probably is a rare example of taking for granted what any discoverer would *wish* to be true; but it is not a solitary *mistake*. In the work, wherein it is so considerately and kindly recorded, there are many such evidences of overweening confidence in the observative, reflective, and ratiocinative abilities of the amiable author.

In Leighton's 'Flora of Shropshire,' the plant is localized, "Woods; rare. Badger Dingle, *H. Bidwell, Esq.*!"

A remark on the situation of Badger Dingle may be useful to some plant-hunters.

This locality is the station of more rare plants, though not of any so rare as the yellow Anemone, viz. of *Geranium lucidum*, which is entered on Mr. Bidwell's authority; also of *Chrysosplenium oppositifolium*, and others of less note. Its situation is five miles south-east of Shiffnal. See 'Flora of Shropshire,' pp. 186, 256, 331, 534, etc.

Trollius europæus is found at Norton, but it is rare.

This will constitute an item in some future supplement to the 'Cybele Britannica;' or, as the learned Secretary of the Thirsk Natural History Society elegantly and truly describes such awkward facts, "new to the Ouse province." Though it has probably grown there ever since the eastern lowlands, Norfolk and all, emerged from the humid lap of old mother *Thetis*.

Aquilegia vulgaris occurs sparingly in woods about Ranworth, a very wild tract of country, and an obscure village about nine miles from Norwich, intersected by sluggish rivers, or dikes or drives (the provincial names of huge open drains), and abounding in rare aquatics, and in such as love to grow on the brink of deep waters.

Nat. Ord. PAPAVERACEÆ.—*Chelidonium majus* is very common about Ranworth and Aldeby.

Ræmeria hybrida: this plant is not peculiar to Cambridgeshire, as stated in the 'Phytologist' for April, 1861, p. 124; it is found in several places in Norfolk, though nowhere very plentiful, as at Fritton, two miles from Long Stratton (see 'Phytologist' for August, 1861, p. 255). Hudson's authority is confirmed as far as it probably can be by a manuscript account, *penes me*, of a specimen of *Glaucium phæniceum* from this very locality, preserved in the herbarium of a Llangollen botanist. This veteran recommended a renewed search for the plant; but the search was productive of no result but disappointment.

Nat. Ord. CRUCIFERÆ.—*Cakile maritima* grows on the seashore, between Yarmouth and Lowestoft.

Hutchinsia petræa, which is found on the ruins of St. Benedict's Abbey?, Norwich, is another rarity, and an example of a very local species. But this fact, which is new to science, though not to nature, is corroborative proof of the genuineness of the Eltham locality for this plant. Let the assumption be granted that the monastic orders planted and propagated many foreign plants, this was not one of a sort which they would be likely to patronize, for it is neither useful nor ornamental; and like many other minute rupestral or mural plants, it is not very readily naturalized. It is not improbable that its apparent predilections for the western parts of England originate in its finding there both a moister climate and a more rocky surface.

Teesdalia nudicaulis is not scarce on banks near the sea, about Yarmouth and Lowestoft. In this locality it was in flower last season, 1860, on the 16th June. (It was in flower at least two months earlier on Barnes Common, near London.)

Lepidium latifolium, in salt-marshes by Breydon, in this district, and at Reedham, but sparingly. The history of this plant in England tells a doleful tale to the lovers of British botany, and forebodes the total disappearance of this species. About a century ago it was not uncommon in the marshes and about the creeks near Faversham, in Kent. It has not been seen there, or, more correctly, no record of its appearance there has been published, for probably more than half a century. *Lepi-*

dium Draba is taking its place in our lists, and possibly it appears in some of the ancient localities for this fine plant.

Lepidium Smithii and *Nasturtium sylvestre* grow sparingly by hedges near Ranworth. *Cochlearia danica* appears among stones at Breydon, near Yarmouth, and also at Burgh Castle, though rare. Is found by watersides.

Note. The common *Crucifers* are omitted in the above enumeration; those quoted are very favourable representatives of the Order in a county which is nearly flat, and possesses no rocky elevations. Further, *Iberis amara*, which occurs, was introduced from Berkshire, probably among seed-wheat, and *Brassica oleracea*, from Torquay, Devon.

The following are not grouped in Orders, because there are so few under each Order that to enter them as above would occupy more space than is necessary.

Reseda alba grows on sandhills at Gisleham, near Lowestoft. A great many plants like those observed at Wandsworth, are reported from this locality. (Will some obliging friend send a list of them to the Editor or to the Publisher of this magazine?)

Viola odorata is plentiful about Ranworth and Aldeby, in woods and on hedge-banks. The white variety of this early favourite is found occasionally in these parts.

Frankenia lævis grows in salt-marshes, near Yarmouth, in abundance. It is one of our frequent maritime species.

The following rare Caryophyllaceous plants (would Dr. Lindley call them *Caryophyllads?*) occur in this district (a strip of coast between Lowestoft, Yarmouth and Norwich), viz. *Dianthus prolifer*, in pastures, near Norwich; also at Thorpe and Catton occasionally. (Is it plentiful in pastures?—Ed.) *D. Caryophyllus*, on an old wall near the Cathedral Close, Norwich, August 1st, 1856. I have not seen it since. Of *Silene Otites* I found some tiny plants in flower at St. Faith's, near Norwich, August 15th, 1855, and again July 28th, 1859. I found a few plants of *S. anglica*, in flower, about Whit-Sunday, 1857, in some fields belonging to Sir R. Mitton, near Thetford, and also at Brandon in the same year.

Mœnchia erecta is common.

Stellaria nemorum is another addition to the Ouse province, as a Cybelian or a Watsonian would enter this species, that is, if he condescended to enter it at all in his records of new discoveries.

The probability is that, like his great leader, the *magnus Coryphæus* of British phytogeographers, he would ignore the plant because of the humility of its first printed record in this district. But the fact would be still a fact, but it would be as if it *were not* to the readers of the 'Cybele,' and especially to such of its few readers as rely upon the fidelity of its reports, viz. such as pin their botanical faith to its pages. This northern species of Stitchwort (*S. nemorum*) does grow, notwithstanding, in moist woods near Ranworth.

Note. A specimen was sent to the Editor of the 'Phytologist,' and anybody may see it. It probably has grown there since the creation.

Cerastium arvense is not scarce on sandy hills in the same vicinity, viz. near Ranworth.

Geranium pyrenaicum grows on a hilly pasture at Aldeby, and it is one of the rarities of the neighbourhood.

It is entered in the 'Cybele' as a naturalized alien; and this may be so, or it may not. Who would *now* venture to affirm or to deny that the author of the 'Cybele' himself is or is not a naturalized alien? We may be allowed to differ without bitter hatred about the nativity or the alienism of certain humble plants which are so utterly unheeded as to be called weeds by the million, and the question about their nationality is scouted by the majority of those who take some little interest in the science of plants. But what does the author mean by the nativity of the localities upon which doubt is thrown by the scanty numbers of the plants, by the proximity of gardens, etc.? He cannot mean that we have imported the hilly pastures of Norfolk, nor the rocky precipitous elevation of Arthur's Seat, in the Queen's Park, Edinburgh, where this plant grows! What does he mean? Simply that all the quoted localities for *G. pyrenaicum* are near gardens, and that in these subhortulan localities there are but few plants to be found; both of which are pure assumptions, and as far from truth as the mountains of North Wales are distant from the hills of Dartmoor.

The eminent and learned author of the 'English Flora,' whose religious belief was not deemed very comprehensive by his orthodox contemporaries, might have stated, if the question about the nativity of this plant had been agitated in his days, that the old authors on plants do not inform us that this Geranium was ever a garden species, and that therefore it could be no escape from cultivation. Whether there be any validity in this argument or not I will not try to determine, but it is certain that this plant is not *now* one of our cultivated productions. There is no good reason for believing that it ever enjoyed this honour, except in botanical collections, and no marvel, seeing there are so many hardy herbaceous members of the same family far more showy and far more common than this one is.

Although this plant was well known, and not unaptly described by Hudson, ('Flora Anglica,' p. 65, ed. i.: *G. perenne habitat in pratis montosis,* it grows in upland or hilly pastures, also *prope* (near) Enfield; *et inter* (and between) Hyde Park and Little Chelsea), yet it is not noticed by Ray nor by his learned editor Dillenius. It is the large-flowered *G. molle* of Curtis, who, like Linnæus, combined it with *G. molle* of more recent authors.

Althæa officinalis is very common in marshes about Ranworth ?, and in other parts near the coast.

The rare *Leguminifers* are well represented in our district: for example, we have *Medicago falcata,* frequent in pastures and fields near Ranworth; and the white flowers of *Melilotus vulgaris* are very conspicuous and ornamental on the sandhills about Yarmouth, where this suspected alien is very abundant. *Trifolium subterraneum* grows at Ranworth, but it is not one of our frequent plants. *T. medium* is plentiful in our pastures, and *T. maritimum* also on the seashore, especially in salt-marshes near Breydon, Yarmouth. *T. procumbens* abounds everywhere; *passim occurrit,* as the ancient botanists used to describe the frequency of very common plants. *T. suffocatum* grows on the sandy shores near Lowestoft, but it is not common nor even frequent. *Lathyrus palustris* is found sparingly in the Ranworth bogs; and *Astragalus Glycyphyllus* occurs here and there in the woods near Aldeby. The above is a highly respectable company of the members of one family, all found in a corner of a very flat, uniform county, with as little variety of surface-elevation as any of our English counties.

Spiræa Filipendula grows sparingly in pastures near Fritton ?, and is in flower in July. *Geum rivale* and *Comarum palustre* are common in wet and boggy parts. *Fragaria elatior* is found in the grounds (? what grounds, woods or wastes ?) at Wheatacre

Rectory. *Epilobium angustifolium* is a Ranworth plant, and a very conspicuous one: it flowers in August. (This species has a predilection for peat-bogs and for fens. It also thrives well on rocks above Killin, Breadalbane, a situation probably above 2000 feet in altitude; here it is on a level with the coast.)

Bupleurum rotundifolium grows sparingly in chalky-marly cornfields about Crostwer and Korstead. It is one of the rarest of our plants.

We are comparatively rich in rare *Compositæ;* for example, we have *Crepis paludosa,* a plant which a *neophytogeographer* would describe as *new* to the Ouse province. It has probably been here since Noah's Flood; it is certainly here now, in moist woods near Knapton and Cromer, and it bears no marks of being a recent importation, like the *Iberis amara, Arenaria balearica* at Moncrieffe, etc., and some of the species lately reported from Wandsworth.

Diotis maritima is indeed a gem, a rare flower of our Suffolk shore, near Orford. May its numbers never be fewer, but on the other hand may it increase and multiply along both the southern as well as on the eastern coasts!

Senecio paludosus is only occasionally found in bogs at Ranworth. It is a large handsome plant, with conspicuous flowers, and easily distinguishable from our other British *Ragweeds.* (We wish some Norfolk correspondent would tell us, or rather the readers of the 'Phytologist,' where *Senecio palustris* (*Cineraria palustris*) and *Sonchus palustris* grow in their bounds. They have been recently told of a good locality for the latter.)

Artemisia campestris is found, though rarely, on heaths near Yarmouth. Is this a new station for this rare plant? The Thetford locality has been long known.

Campanula latifolia has been detected in an osier-bed?, or alder-wood, called Laseys, at Ranworth, a fine plant with large, handsome, pale-blue flowers. I first observed it here in July, 1857.

Andromeda polifolia occasionally appears at Ranworth. I observed it in June 28th, 1855, and 1857, when it was in flower.

I also found *Pyrola rotundifolia* in flower, October 19th, in a wood by the side of a lake at Fritton, south-west of Yarmouth; also in bogs at Bardwell, among seeds, and growing out of what are called gnat-hills. Here there are large tumps of *Carex paniculata,* where *Lastrea spinulosa* abounds. Sometimes *L.*

cristata and *L. Thelypteris* are to be found growing together in one hassocky, bunchy elevation.

Gentiana Pneumonanthe I found, though rare, on moory heaths, at Herringfleet, two miles from Mildenhall, Suffolk, and at Beltin, Suffolk, five miles south-west of Yarmouth, on September 28th, 1860.

Villarsia nymphæoides I saw in some muddy ditches at Ranworth, growing with *Sagittaria sagittifolia.*

Anagallis tenella is common in the bogs about Ranworth.

Rumex pratensis occurs occasionally at Ranworth, Horning, and Fritton, associated with *Epipactis palustris.*

Verbascum Lychnitis is on the East Suffolk railway, and *Lysimachia thyrsiflora* at Surlingham Broad side, Norwich.

Habenaria viridis grows on hilly pastures near Aldeby. It is rare here as it is everywhere. I saw it in flower July 19th, 1860.

Fritillaria Meleagris is occasionally seen in meadows, Burgh St. Peter's.

Colchicum autumnale is common in meadows near Ranworth, and occasionally in meadows at Burgh St. Peter's and Aldeby.

Carex dioica grows in springy bogs, at Ranworth; it flowers in May. It is associated with *C. curta* and other *Carices.*

Setaria viridis is now and then observed in fields about Thorpe, near Norwich, but it is not common; it flowers in August.

Gastridium lendigerum is found sparingly near foul, mephitic ditches at Gillingham, near Beccles. (It is to be hoped that the sanitary commissioners will attend to this matter.)

This rare grass is also met with near a railway crossing at Aldeby.

Poa bulbosa abounds at Yarmouth in May.

Lastrea cristata grows sparingly in bogs at Fritton, and near the *Broad,* at Surlingham, near Norwich.

BOTANY OF SPAIN.

A Few Days' Botanizing in the North-Eastern Provinces of Spain, in April and May, 1860.

No. II. TARRAGONA, VALENCIA, ZARAGOZA.

The place in Spain which added most to my Barcelona stock of plants, was Tarragona; a fortified town, picturesquely situated on a hill overlooking a broad space of sea from north to south, and commanding westward a wide stretch of uneven rocky ground, in which cultivation and waste are blended in varying proportions. I will not lengthen the record by speaking again of any plant mentioned in my former paper, except *Dorycnium suffruticosum*, *Lonicera implexa*, and *Phagnalon saxatile*, all of which I here found in flower; and except the Prickly Pear and Palmetto, which I have already mentioned that I first saw at this place. Here too was another *Cistus*, with large white flowers, *Cistus umbellatus*, a *Helianthemum* of some writers; and growing copiously on a wild rocky hill, the original *Gladiolus* of our flower-gardens, *G. byzantinus*, far more beautiful, to my thinking, than the spotted ones of modern introduction. This plant I had only before seen wild at Floridia, near Syracuse. It is not a plant of the French Flora, though France can boast of several species of this fine genus. The one I best know, *G. communis* of Bertoloni, *segetum* of Grenier and Godron, which grows profusely in the corn at Avignon and elsewhere, is of a paler colour than *G. byzantinus*, with petals of more unequal length, and hung more loosely together. The *G. communis* of the French botanists I do not know.

But Tarragona supplied too great a harvest of botanical treasures to be catalogued without some sort of arrangement. To begin, then, at the beginning, I will first mention *Clematis Flammula*, the decumbent though climbing species of the south of Europe; where however the more luxuriant Clematis of our own hedges and thickets is also not unfrequent. This last I do not remember seeing in Spain, except at Monserrat. Of Fumitories there were two, the *parviflora*, and a less common plant, with a dense oval head of dark flowers, *γ. spicata*. The remaining *Thalamifloræ* which I noticed were those common *garrigue* Helianthemums, the white *H. pilosum* (allied to *polifolium*) and that very variable plant, the bright-yellow *H. italicum*; three species of *Silene*, *S. quinquevulnera*, *S. hispida* (I believe) of Desfontaines, recognized by the 'Flore de France' only as a Corsican plant, and a third (*S. turbinata*), not in the French Flora at all, which will be more particularly mentioned hereafter; *Althæa hirsuta*, a plant rather general in the South; *Erodium romanum*, still more common, resembling a large-flowered *E.*

cicutarium, without a stem; and one of the common Rues of the south of France (with the characteristic odour), *Ruta angustifolia.* Of *Leguminosæ* there was still greater variety. To many of the Barcelona species were added *Lotus edulis*, with its thick curved pods, a plant which I had found in Sicily; and a *Melilotus*, I believe *sulcata;* the densely downy *Medicago marina*, the only beach plant in flower here at this period of the season; a *Scorpiurus*, probably the common species, *S. subvillosa*, though its backward condition disables me from speaking positively; and a *Hippocrepis*, much more curious than the *comesa*, *H. ciliata*, whose slender, jointed, crescent-shaped pods are scooped out on the inner side in bay-like, nearly circular indentations, penetrating beyond the middle of the breadth, and justifying the title of Horse-shoe Vetch. This plant was long confounded with *H. multisiliquosa*, L., which it seems is a different species; but those who have seen our plant side by side with *H. unisiliquosa*, will feel tempted to persist in giving it the contrasted name. The next in order of the plants which I noticed, is the blue *Asperula arvensis.* The *Compositæ* included the common Immortelle of the *garrigues*, *Helichrysum Stœchas;* a *Santolina* (I believe) which I also found further north, but which I will not venture to name; the brilliant *Chrysanthemum coronarium*, only coming into flower; a most delicate little plant, the annual Daisy (*Bellis annua*), more daintily coloured but more humble-looking than even its better-known sister; and lastly, one of the most curious of the *Cynareæ*, *Leuzea conifera*, not six inches high, with a flower occupying half its length, like a yellowish-white cone, with a small opening at the top. The *Corolliflorœ* were many and interesting: the exquisitely coloured *Anagallis cærulea;* the splendid *Convolvulus althæoides*, in size resembling *C. sepium*, L., in colour, *C. arvensis;* the creeping *Echium calycinum*, one of the least beautiful of its handsome tribe; our common Snapdragon, *Antirrhinum majus*, which here and in Languedoc is as splendid as in English flower-gardens; *Linaria triphyllos*, a plant of cultivated ground, and its taller but less conspicuous sister, *L. simplex;* one of the handsomest of the genus *Orobanche*, *O. speciosa*, in the same field as the *Linaria* first mentioned; *Plantago Lagopus*, and the rarer and more curious *P. albicans*; and six of the family *Labiatæ*, being *Mentha rotundifolia;* the common Lavender, *Lavandula Spica;* that common plant of the south of Europe, *Sideritis romana; Salvia clandestina* (otherwise *horminoides*), an ally of *S. verbenaca; Micromeria græca,* one of a small-leaved, wiry genus, detached from *Satureia,* and characteristic of the extreme south of Europe; and, last of all, the magnificent *Phlomis Lychnites,* covered with a grey down all over, except the large bright-yellow flowers. This genus counts, I believe, only three European species, which are at the head of European *Labiatæ* in the size and brilliancy combined with the multitude of their flowers. One of the species, *P. Herba-venti,* is widely and rather concisely branched, forming, though herbaceous, a kind of small bush; it is found at Montpellier and other places in the south of France. Our species, *P. Lychnites,* has a simple stem, with great whorls of flowers, like those of the taller and still more magnificent ornament of Sicily and Greece, *P. fruticosa.* The *Apetalæ* I noticed were *Euphorbia flavicoma, digitalis,* and *Paralias* (the last not yet in flower); an *Urtica* of the *pilulifera* section, possibly *pilulifera* itself, which I did not stop to determine; and the picturesque *Passerina hirsuta,* not a beach plant, but seldom or never found far from the sea, and which in February hangs in profusion from the cliffs of Bagnoli, on the approach to Pozzuoli from Naples. Of Monocotyledonous plants the handsomest I saw, except the *Gladiolus,* was a plant looking like a *Scilla* or *Hyacinthus,* and with small pendent flowers, of a bluish colour (if I remember right) while growing, but turning red in drying. The petals, which are united at the base, consist of three shorter and broader, alternating with and included within the same number of longer. This I decided to be *Uropetalum serotinum* (*Lachenalia serotina* of some authors). I found but one specimen. A more singular plant was an Asparagus, of which more hereafter. These, with *Juncus acutus,* on wet ground near the sea, and two grasses, *Gastridium lendigerum* and the beautiful *Lamarckia aurea* (which, in spite of its name, is, at least until withered, rather silvery than golden), complete the record of the best and richest herborization (that of Monserrat excepted) which I have made on Spanish soil. Properly however it was not one, but two herborizations on the same ground, at an interval of about a fortnight.

From each of the other centres at which I halted in my journey, I made but one botanizing expedition. The results however were not without interest.

The plain, well named Huerta (garden) of Valencia, has been often described. It is a rich mass of cultivation, fertilized by the elaborate system of irrigation for which it is indebted to the Moors, consisting of canals traversing the country above its level, from which large or small ramifications are carried into or along the edge of every field. The rivers, which from the shortness of their course are nowhere considerable, are so drained by the canals that in summer they may be crossed dry-shod as they approach the sea. A region of this character is seldom favourable to the botanist; and the mountains, if that name may be given to the heights which support the great plateau of Castille, are too far off to be within reach of an ordinary excursion. The wild plants therefore were chiefly those of cultivated ground, or of the damp borders of streams; of the former class, two were especially abundant and conspicuous: *Allium roseum,* which had delighted me on the hills of Patras and elsewhere, with its umbels of brilliant flowers; and a tall large-flowered *Silene,* with something of the port and colour of the elegant *Lychnis Viscaria.* This plant, which is not in the French Flora, I make out to be *S. turbinata* of Gussone. Of more common plants I observed *Anagallis arvensis,* and a frequent corn plant in eastern and southern Europe, *Saponaria Vaccaria.* The waterside species which I remarked were *Euphorbia pilosa,* a large species, in a dense greyish coat, which frequents similar situations in the valley of the Rhine, and other parts of the South; the universal *Iris Pseudacorus;* and a gigantic *Thalictrum,* which I had not the means of determining. This is a poor tale of plants for so southern a region; but after about an hour's walk, I came to a patch of rocky ground, which, being above the region of the irrigation, had remained in the state of *garrigue,* or had only vines and olives growing on it, and this furnished me with plants of a different order and greater variety. Here I first saw the lurid and night-odorous Stock of English greenhouses, *Matthiola tristis,* a plant which also grows in Provence. The *garrigue* abounded with the narrow-leaved and silvery *Convolvulus Cneorum,* bringing reminiscences of Megara and Corinth. A *Hedysarum,* I believe *H. humile,* made its appearance in small quantity, as did the uniformly grey and downy *Mercurialis tomentosa,* unlike the dark-green hue of the two English species, and with its fructification not spiked but clustered or solitary. Here I again saw *Hippocrepis ciliata* and *Smilax aspera.* The decumbent *Alkanna tinctoria* (formerly a *Lithospermum*) spread out as usual its stems close to the ground, with their terminal clusters of blue flowers, and their thick covering of leaves, incrusted underneath with the dense calcareous soil in which the plant delights. In the herbarium it sometimes stains the paper with a violet dye. I found here, though in small quantity, a species not French (*angustifolia,* I believe), of the very southern genus *Sideritis,* which, by its wiry look and the spinous induration of its sepals, speaks plainly of the arid climates in which it flourishes. But the strangest plant I saw was a bushy mass of Thorns, exactly resembling a small furze-bush in winter, when without traces of leaves; until, on looking for the yellow papilionaceous blossoms, I perceived instead a profusion of small greenish hexandrous flowers, pendent on short thin footstalks from near the axillæ of the wiry and thorny sprays projecting from the stem. By the aid of Persoon I identified this as a plant of Spain, and especially of this part of it, *Asparagus horridus.* It is the same which I afterwards found, in my way back, at Tarragona.

The only other noticeable plant which I saw at Valencia was the stately *Asphodelus ramosus,* of which I had seen at Tarragona a few roots (as I believed) still far from flowering. It does not seem to be a common plant in these parts of Spain, though widely spread in the Mediterranean region. It abounds in many parts of Languedoc and Provence, near Rome and in some other parts of Italy; and in Sicily it, together with the Palmetto, covers nearly all the uncultivated ground. I am afraid, indeed, that the meadows, celebrated by poets, from which Proserpine was carried off while gathering flowers with her attendant maidens, were in truth no other than these Asphodel wastes, which, notwithstanding the beauty of the plant, are by no means so pleasing to the eye or the mind as a real English or mountain meadow. This Asphodel is now called by French botanists *A. microcarpus.* It is confined to the hotter districts of Europe. There is another species or race, called by them *A. subalpinus,* which covers in large masses the middle regions of some of the higher Pyrenees, and it is said also of the Alps. On a superficial view this is not distinguishable from the former. *A. albus* is also a French species, and there is another allied to it, which has only of late become known in France itself, for it is not mentioned by De Candolle. It was seen by the present writer in its native place before the publication of the third volume of Grenier and Godron, in which it is for the first time distinguished and described. It has been named by them *A. sphærocarpus*, and I will venture to make it the subject of a short digression.

Perhaps English botanists may some day turn their steps towards a region not yet much frequented by them, but which has many claims to their notice,—the peninsula of Brittany. The tour of this province is one of the most attractive short Continental excursions which an Englishman can make. In the first place, it is about the cheapest; a consideration no less important to botanists than to others, their pursuit not being one of those which bring in a golden harvest. The inn charges, when once fairly within the peninsula, are (or were half-a-dozen years ago) less than two-thirds of the ordinary scale of travelling in France. Besides being the cheapest, this excursion is one of the most beautiful of those which are easily and quickly accessible, and its style of beauty is that which English people usually prefer. The interior resembles, more nearly than anything else on the Continent, the wilder and rockier parts of England, while the coast scenery rivals that of Cornwall. The journey also naturally combines with a visit to that corner of the British dominions so interesting to an English botanist and to a political economist, the Channel Islands. The north coast of Brittany has not, as far as I could observe, much of botanical attraction, if we except the neighbourhood of Dinan, which produces *Galeopsis villosa, Gratiola officinalis, Sinapis Cheiranthus, Sedum album, reflexum,* and *rubens, Tragopogon porrifolius,* and others. But the southern coast, from the peninsula of Penmarch to the Loire, unites the attraction of rare plants with that of its unrivalled Druidical remains. Among these last, the traveller will scarcely fail to visit those of the peninsula of Locmariaker; and if he does so, it should not be from Auray, but from Vannes, in a boat down the river, and across the gulf or inland sea known as the Mer de Morbihan. Among the numerous islands (the popular imagination reckons three hundred and sixty-five) with which the sea is studded, he will doubtless land on a small one bearing the name of Gâvr Innis, and containing one of the rarest of Druidical monuments, a chamber entirely covered in, smaller certainly than the remarkable one near Saumur, but excelling it in being subterraneous, and (what is still more important) solitary. This island is full of the Asphodel in question. I was told that it grows on several of the other islands, and that its white flowers (replaced where I saw it in June by red fruits) are the glory in spring of this marine region. The authors of the 'Flore de France' enumerated four other localities, all in the west or west centre of France, but three of these four have a mark of interrogation attached to them by the authors.

(*To be continued.*)

BOTANY OF BEN LAWERS.

Scarce Alpine Plants met with during a recent Ten Days' Ramble among the Breadalbane Mountains. By JAMES BACKHOUSE, Jun.

Gentiana nivalis. This plant was found in great profusion on Ben Lawers; not, as heretofore, scattered sparingly upon the cliffs, but in hundreds; as many as a dozen sometimes occurring in a square yard. Though rather past its best, some of the brilliant blue flowers were expanded in the morning sunshine.

Woodsia alpina. Thirty-seven tufts of this Fern were counted in about fifteen minutes. Some of the fronds were four inches long.

Phleum alpinum. A solitary example was gathered from a wet ledge on one of the peaks of Ben Lawers. In the same vicinity—

Veronica saxatilis and

Erigeron alpinus were luxuriant.

Saxifraga cernua. Two fine specimens of this species were gathered on the same mountain with *expanded blossoms.* Three or four others had partially developed flowers, and several plants were four to six inches high. It was very abundant, associated with

Draba rupestris and a

Cerastium, which has long been confounded with *C. alpinum,* but is, I have no doubt, specifically distinct. It is downy, not silky; much more rambling in habit, and has flowers equally large. It is scattered over a large district, including the highest peak of Ben Lawers, and down to the lake on the east of the summit.

Cerastium alpinum occurs in the same region, and in countless thousands over the micaceous mountains of the district; but where mingled with the above-mentioned, it retains its usual characters, and does not, so far as I noticed, show any tendency to intermediate forms.

Juncus castaneus. Sparingly, in very wet places on the Ben Lawers range, and in Glen Lochay; always (?) having a northern aspect.

Myosotis alpestris adorns the high ledges on Ben Lawers with a grand display of its unrivalled blossoms.

Arenaria rubella was abundant among the micaceous shale of the highest "corries" of Ben Lawers.

Cystopteris montana. This Fern was met with on Ben Lawers, occupying the moist ledges of a crag, where access was rather difficult. The fronds were short, not fertile, and but sparingly scattered over a distance of fifty to a hundred feet. On a cliff overlooking Glen Lyon, we found it in great profusion, covering the mossy ledges, for nearly a quarter of a mile, with thousands of fronds. The largest specimens were twelve inches high; one was six to seven inches in width, and several were in fine fructification. Its range of altitude was apparently three to four hundred feet. On the same rocks were *Bartsia alpina* (very luxuriant), *Pyrola rotundifolia, Pyrola secunda;* and countless masses of *Saussurea alpina, Salix reticulata, herbacea,* and *venulosa?; Saxifraga oppositifolia, S. aizoides, Cerastium alpinum, Silene acaulis, Cherleria sedoides, Carex capillaris, Dryas octopetala,* and *Sagina saxatilis.*

The micaceous crags of this district are mainly carpeted with *Silene acaulis, Sax. oppositifolia* and *aizoides, Cerastium alpinum,* and *Cherlerea sedoides.* They form the principal herbage; hanging in fine sheets from the rocks, or densely carpeting them with soft green cushions. Intermingled with them may often be seen the nodding heads of *Luzula spicata,* or tufts of the tall and elegant *Carex atrata,* waving in the wind. Close search on the wettest ledges will frequently be rewarded with abundance of *Juncus biglumis*, while the bogs above yield the black-headed *Carex saxatilis*, *Epilobium anagallidifolium*, and many other interesting things, which amply compensate the botanist for the rain and storms that frequently assail him.

Polystichum Lonchitis abounds almost everywhere in the crevices of rocks, at an elevation of two thousand feet and upwards, frequently associated with

Pseudathyrium alpestre; and on Ben Lawers, with a

Lastrea, of which the fronds are highly divided, so as almost to resemble *Cystop. montana*.

COLLINSON'S NOTES.

(*To the Editor of the 'Phytologist.'*)

Dear Mr. Editor,—From the same source as that from which I sent you a few notes upon Harefield and other Orchises, viz. some original manuscript notes by the Collinsons (Peter and Michael), I now have the pleasure of communicating a sort of supplement to that paper (see 'Phytologist' for June, 1861, p. 171). The present relates chiefly to many Orchises observed during a visit to and sojourn in Rome, in the year 1770. This paper appears to be entirely in the handwriting of, and is signed by, Michael Collinson. It follows here in the order and in the exact words of the journal.

"June, 1770.—Observed in the gardens of the Capuchin Convent, near Albano, in the wood within the enclosure, the *common Bee Orchis* in full flower, not the least variation from our English kind, and this was the only place in all Italy where I saw it.

"May, 1770.—About a mile or two before we entered Rome, as also at a place a little more remote, and not far from a monument called Nero's Tomb, I observed the *green-winged Bee Orchis*, the same as our English kind, only higher and stronger, and nearly out of flower, growing on the green banks close to the side of the road, where there also grew a noble tall species of *Asphodel*, branched with white flowers in full bloom.

"June 10th.—About eight miles from Rome, in the road to Tivoli, on the left-hand, a little short of the Solfaterra river, I found the *green-winged Bee Orchis*, in full bloom, growing close to the road, among the bushes. Could perceive no difference between this and the English sort. Brought home roots and specimens with me. It is a most extraordinary circumstance that a *green-winged Bee Orchis* should be in flower so late as the above period in so warm a latitude as the Roman one; it is therefore obvious that there must be some difference between this described species and that I observed before, on the Ronciglione side of Rome, as well as our English species, though I was not able to perceive it.

"Not far from the above spot, in our way to the Solfaterra lake, famous for its floating islands (though I think very insignificant ones), I was struck with a glorious kind of *Bee* or *Fly Orchis* growing among the bushes, of which I brought away many roots and specimens. The flower was more of the *Fly Orchis* shape than the *Bee;* the wings of a violet-pale-purple; the lip very long; of the *Fly* shape, of a yellowish, rich dark velvet, the middle crossed with a dark purple zone; the leaves resembled those of the Bee Orchis, but rather larger. Another very singular *Orchis*, of the *Spur* kind, and with palmated roots, grew in company with the above, of a sweet scent and dingy-purple colour.

"In May we observed, growing on the banks beside the road leading from Ronciglione into the Campagna of Rome, and just at the entrance into it, a very beautiful kind of *Orchis*, of a rich crimson colour, bulbous-rooted, a most rare species, unlike any known to us. Brought away roots and specimens. As the plant dried, the richness of the colour faded, to my great concern.

"*Orchis papilionacea?*—In May, 1770, in a noble forest of Oak, Beech and Chestnut, just beyond the lake and town of Bolsena, on the left-hand, in the road to Viterbo, I observed a most curious kind of bulbous-rooted *Orchis*, *O. provincialis ?*, of a brownish-yellow colour, a most glorious spike of flowers, growing on the mossy banks in the little glades, at the roots of the trees. Observed the same species a few miles on the other side Bolsena, between that town and Aquapendente, growing in the banks by the roadside, in which banks was also abundance of a beautiful *Cyclamen*, in full flower about the middle of May. Near Aquapendente, the Honeysuckles that hung on the evergreen Oaks and other trees by the roadside (which harboured numbers of nightingales), dispensed their sweets in abundance. They seemed to be of the early, sweet-scented kind. Near Florence we saw the *yellow Spring Aconite,* and also the *Soldier Orchis* of Parkinson, the same, I mean, which grows in Darent woods, near Dartford, in Kent.

"April 1770.—Observed the *Trago Orchis*, growing close to the Pont du Gard, in Languedoc; and in June we also saw it in full flower among the privet-bushes about one mile from Albano, near Rome. In May, found a most curious crimson bulbous-rooted *Orchis* near Lake Aguano, at Naples.*

"At Valdagno, under the Alps, a few miles north of Vicenza and Verona, where we resided some weeks, I found, about one mile from the town, on the left-hand, in the road to Recoara, about the middle of July, 1770, a very elegant kind of *Bee Orchis*, with a yellowish lip, and crossed by a zone of a still deeper colour, with white wings, at the ends a little tinged with purple, *Ophrys scolopax?* This beautiful plant, notwithstanding the advanced season of the year, was in full bloom. I also met with it in another place, nearer to the town, not far from the cross, growing upon the dry green banks, above which in many places the rock shows itself. The *broad-leaved Man Orchis* I also saw the seed-vessel of; and a kind of yellow or orange-coloured Lily grew among the bushes, a little higher than the cross."

Z.

Kew, July 1861.

A brief Notice of William Williams, Botanical Guide to Llanberis, Snowdon, Twll Ddu, etc.

The untimely and melancholy fate of the late W. Williams, of the Victoria Hotel, Llanberis, has been lately noticed in our pages, and must be still fresh in the recollection of our readers. The following statements have been communicated to us by the

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* "The roots of this fine plant, which are sent over from thence, have continued to flourish in England for many years."—(M.C.)

Rector of Llanberis, and by a brother of the deceased, through the medium of our reverend friend the clergyman above-mentioned.

The brother of the deceased supplies the account of his first entrance into active life, and it is here given in his own words, in reply to one which the Rev. Mr. Williams of Llanberis wrote requesting information.

"Llanfair, near Ruthin, July 4th, 1861.

"Rev. Sir,—In reply to your favour respecting my late brother, I can inform you that he was born in the year 1805, in the parish of Llanfwrog, Denbighshire, and went to service at the age of thirteen, and was chiefly engaged as a sub-groom. He served Mr. M. Turner, of Abbot's Bromley, Staffordshire, as a groom, and here he stayed four years.

"Subsequently he was employed at hotels and inns, viz. by the proprietor of the White Lion, Ruthin, and afterwards at the Black Lion Hotel, Mold, as a general driver. He served in the same capacity at the Penrhyn Arms, Bangor, and also at the Liverpool Arms.

"When he resided at Bangor, he went to school for about six months, and this was all the education he had, and it was obtained at his own expense.

"I feel greatly obliged to you for your inquiries about my late brother. My poor and aged mother is in tolerable health, and desires me to send her best thanks to you for your kindness."

The Rev. Mr. Williams sent to our Publisher the following particulars, which we offer to our readers as the best account we can give them about W. Williams, the late botanical guide, of Llanberis.

"Llanberis, July 19th, 1861.

"My dear Sir,—I enclose a letter which I have received from a brother of William Williams, containing some particulars of his early life. I have not been able to learn when he first turned his attention to botany; but I have been informed that he received great help from Mr. Babington and the Rev. Mr. Butler in acquiring a knowledge of the rarer plants of this neighbourhood. The oldest guide here tells me that when Mr. Williams began to act as guide, insects and crystals were his ***hobby***. He had resided at Llanberis nearly thirty years, and had ascended Snowdon occasionally three times in the course of the same day.

"I always found him straight-forward, truth-telling, and honest. A different impression of his character from this might be left on the minds of some, who may have read a communication from Mr. John Barton, in the 'Phytologist' of January, 1857. But this may be easily explained. Mr. Williams was jealous about the rarer Ferns: not from any mercenary motive; he was jealous for the character of the locality, and did not like it to be robbed of what proved a great attraction to many visitors. To persons whom he *knew*, he never hesitated to show the habitats of the rarer plants.

"He was always ready to assist a poor neighbour, and very charitable. I don't think he could refuse, if it was in his power, to relieve a fellow-creature in distress. On the last Sunday of his life, he attended the night service at the Independent Chapel. A collection was made for a poor widow, and when the plate was handed to W. Williams, he put down a half-crown and a penny. The holder of the plate, thinking that he had made a mistake, called his attention to the money he had deposited. Williams however said it was all right. It appeared afterwards that he had given all the money he had in the world.

"He was also an affectionate and dutiful son. He visited his aged parents every winter. Somehow or other he was prevented last winter from going to see his mother (his father died about three years ago), but he was very anxious to do so before the busy part of the season commenced. He could not for some time before his death mention her name without shedding tears, and had his life been spared him another week, the last fond wish of his heart would have been gratified. But an all-wise Providence overruled it otherwise. He met with his death by falling from Clogwyn y Garnedd, and his remains were interred close by those of Mr. Frodsham, who was killed by falling from Clogwyn ddu yr Arddu, August, 1859."

A COMPARATIVE LIST OF BRITISH PLANTS.

Showing the different Names and Species adopted in the four best-known English Works.

The order here followed is that of Babington's 'Manual' (ed. 4), from which the names are in the first instance taken, omitting the species enclosed in brackets.

BABINGTON.	LOND. CAT.	HOOKER & ARNOTT.	BENTHAM.
Rosa rubella.	*(Omitted.)*	*R. rubella.*	*R. spinosissima.*
Rosa spinosissima.	R. spinosissima.	R. spinosissima.	R. spinosissima.
Rosa hibernica.	*R. hibernica.*	*R. hibernica.*	*R. villosa.*
Rosa Wilsoni.	*R. Wilsoni.*	*R. Wilsoni.*	*A var. (omitted.)*
Rosa involuta.	*R. involuta.*	*R. involuta.*	*R. spinosissima.*
Rosa Sabini.	*R. Sabini.*	*R. Sabini.*	*R. villosa.*
Rosa villosa.	R. villosa.	R. villosa.	R. villosa.
Rosa tomentosa.	*R. tomentosa.*	*R. tomentosa.*	*R. villosa.*
Rosa inodora.	R. inodora.	R. inodora.	*A var. (omitted.)*
Rosa micrantha.	*R. micrantha.*	*R. micrantha.*	*R. rubiginosa.*
Rosa rubiginosa.	R. rubiginosa.	R. rubiginosa.	R. rubiginosa.
Rosa sepium.	*R. sepium.*	*R. sepium.*	*R. rubiginosa.*
Rosa canina.	R. canina.	R. canina.	R. canina.
Rosa bractescens.	*R. canina.*	*R. bractescens.*	*A var. (omitted)*
Rosa cæsia.	*R. canina.*	*R. cæsia.*	*R. canina.*
Rosa systyla.	*R. systyla.*	*R. systyla.*	*R. canina.*
Rosa arvensis.	R. arvensis.	R. arvensis.	R. arvensis.
Cratægus Oxyacantha.	C. Oxyacantha.	C. Oxyacantha.	C. Oxyacantha.
Cotoneaster vulgaris.	C. vulgaris.	C. vulgaris.	C. vulgaris.
Mespilus germanica.	M. germanica.	M. germanica.	M. germanica.
Pyrus communis.	P. communis.	P. communis.	P. communis.
Pyrus Malus.	P. Malus.	P. Malus.	P. Malus.
Pyrus Aucuparia.	P. Aucuparia,	P. Aucuparia.	P. Aucuparia.
Pyrus fennica.	*P. Aria.*	*P. Aria.*	*P. Aria.*
Pyrus Aria.	P. Aria.	P. Aria.	P. Aria.
Pyrus scandica.	*P. Aria.*	*P. Aria.*	*P. Aria.*
Pyrus torminalis.	P. torminalis.	P. torminalis.	P. torminalis.
Lythrum Salicaria.	L. Salicaria.	L. Salicaria.	L. Salicaria.
Lythrum hyssopifolium.	L. hyssopifolium,	L. hyssopifolium.	L. hyssopifolium.
Peplis Portula.	P. Portula.	P. Portula.	P. Portula.
Tamarix anglica.	*T. anglica.*	*T. anglica.*	*T. gallica.*
Epilobium angustifolium.	E. angustifolium.	E. angustifolium.	E. angustifolium.
Epilobium rosmarinifolium.	*E. rosmarinifol.*	*(Excluded.)*	*(Omitted.)*
Epilobium hirsutum.	E. hirsutum.	E. hirsutum.	E. hirsutum.
Epilobium parviflorum.	E. parviflorum.	E. parviflorum.	E. parviflorum.
Epilobium montanuum.	E. montanum.	E. montanum.	E. montanum.
Epilobium lanceolatum.	*E. lanceolatum.*	*E. lanceolatum.*	*E. roseum.*
Epilobium roseum.	E. roseum.	E. roseum.	E. roseum.
Epilobium tetragonum.	E. tetragonum.	E. tetragonum.	E. tetragonum.

BABINGTON.	LOND. CAT.	HOOKER & ARNOTT.	BENTHAM.
Epilobium obscurum.	*E. tetragonum.*	*E. tetragonum.*	*E. tetragonum.*
Epilobium palustre.	E. palustre.	E. palustre.	E. palustre.
Epilobium alpinum.	E. alpinum.	E. alpinum.	E. alpinum.
Epilobium anagallidifol.	*E. alpinum.*	*E. alpinum.*	*E. alpinum.*
Epilobium alsinifolium.	E. alsinifolium.	E. alsinifolium.	E. alsinifolium.
Œnothera biennis.	Œ. biennis.	Œ. biennis.	Œ. biennis.
Isnardia palustris.	*I. palustris.*	*I. palustris.*	*Ludwigia palustris.*
Circæa lutetiana.	C. lutetiana.	C. lutetiana.	C. lutetiana.
Circæa alpina.	C. alpina.	C. alpina.	C. alpina.
Myriophyllum verticillatum.	M. verticillatum.	M. verticillatum.	M. verticillatum.
Myriophyllum spicatum.	M. spicatum.	M. spicatum.	M. spicatum.
Myriophyllum alterniflor.	*M. alterniflorum.*	*M. alterniflorum.*	*M. spicatum.*
Hippuris vulgaris.	H. vulgaris.	H. vulgaris.	H. vulgaris.
Bryonia dioica.	B. dioica.	B. dioica.	B. dioica.
Montia fontana.	M. fontana.	M. fontana.	M. fontana.
Corrigiola littoralis.	C. littoralis.	C. littoralis.	C. littoralis.
Herniaria glabra.	H. glabra.	H. glabra.	H. glabra.
Herniara ciliata.	*H. glabra.*	*H. glabra.*	*H. glabra.*
Illecebrum verticillatum.	I. verticillatum.	I. verticillatum.	I. verticillatum.
Polycarpon tetraphyllum.	P. tetraphyllum.	P. tetraphyllum.	P. tetraphyllum.
Lepigonum rubrum.	*Spergularia rubra.*	*Spergularia rubra.*	*Spergularia rubra.*
———	*Spergularia rupestris.*	*(Omitted.)*	*(Omitted.)*
Lepigonum marinum.	*Spergularia marina.*	*Spergularia marina.*	*Spergularia rubra.*
Spergula arvensis.	S. arvensis.	S. arvensis.	S. arvensis.
Scleranthus annuus.	S. annuus.	S. annuus.	S. annuus.
Scleranthus perennis.	S. perennis.	S. perennis.	S. perennis.
Tillæa muscosa.	T. muscosa.	T. muscosa.	T. muscosa.
Sedum Rhodiola.	S. Rhodiola.	S. Rhodiola.	S. Rhodiola.
Sedum Telephium.	S. Telephium.	S. Telephium.	S. Telephium.
Sedum purpureum.	*S. Telephium.*	*S. Telephium.*	*S. Telephium.*
Sedum villosum.	S. villosum.	S. villosum.	S. villosum.
Sedum album.	S. album.	S. album.	S. album.
Sedum dasyphyllum.	S. dasyphyllum.	S. dasyphyllum.	S. dasyphyllum.
Sedum anglicum.	S. anglicum.	S. anglicum.	S. anglicum.
Sedum acre.	S. acre.	S. acre.	S. acre.
Sedum reflexum.	*S. reflexum.*	*S. reflexum.*	*S. rupestre.*
Sedum rupestre.	S. rupestre.	S. rupestre.	S. rupestre.
Sedum Forsterianum.	*S. Forsterianum.*	*S. Forsterianum.*	*S. rupestre.*
Cotyledon Umbilicus.	C. Umbilicus.	C. Umbilicus.	C. Umbilicus.
Ribes Grossularia.	R. Grossularia.	R. Grossularia.	R. Grossularia.
Ribes alpinum.	R. alpinum.	R. alpinum.	R. alpinum.
Ribes nigrum.	R. nigrum.	R. nigrum.	R. nigrum.
Ribes rubrum.	R. rubrum.	R. rubrum.	R. rubrum.
Saxifraga umbrosa.	S. umbrosa.	S. umbrosa.	S. umbrosa.
Saxifraga elegans.	*S. Geum.*	*Var. or hybrid.*	*S. Geum.*
Saxifraga hirsuta.	*S. hirsuta.*	*Var. or hybrid.*	*S. Geum.*
Saxifraga Geum.	S. Geum.	S. Geum.	S. Geum.

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Saxifraga stellaris.	S. stellaris.	S. stellaris.	S. stellaris.
Saxifraga Hirculus.	S. Hirculus.	S. Hirculus.	S. Hirculus.
Saxifraga aizoides.	S. aizoides.	S. aizoides.	S. aizoides.
Saxifraga cæspitosa.	S. cæspitosa.	S. cæspitosa.	S. cæspitosa.
Saxifraga hirta.	*S. hirta.*	*S. hypnoides.*	*S. hypnoides.*
Saxifraga affinis.	*S. affinis.*	*S. hypnoides.*	*S. hypnoides.*
Saxifraga hypnoides.	S. hypnoides.	S. hypnoides.	S. hypnoides.
Saxifraga lætevirens.	*S. hypnoides.*	*S. hypnoides.*	*? A var.* (*omitted.*)
Saxifraga pedatifida.	(*Excluded.*)	*S. geranoides, or error.*	*S. hypnoides.*
Saxifraga tridactylites.	S. tridactylites.	S. tridactylites.	S. tridactylites.
Saxifraga granulata.	S. granulata.	S. granulata.	S. granulata.
Saxifraga cernua.	S. cernua.	S. cernua.	S. cernua.
Saxifraga rivularis.	S. rivularis.	S. rivularis.	S. rivularis.
Saxifraga nivalis.	S. nivalis.	S. nivalis.	S. nivalis.
Saxifraga oppositifolia.	S. oppositifolia.	S. oppositifolia.	S. oppositifolia.
Chrysosplenium alternifol.	C. alternifolium.	C. alternifolium.	C. alternifolium.
Chrysosplenium oppositifol.	C. oppositifolium.	C. oppositifolium.	C. oppositifolium.
Hydrocotyle vulgaris.	H. vulgaris.	H. vulgaris.	H. vulgaris.
Sanicula europæa.	S. europæa.	S. europæa.	S. europæa.
Astrantia major.	A. major.	(Excluded.)	A. major.
Eryngium maritimum.	E. maritimum.	E. maritimum.	E. maritimum.
Eryngium campestre.	E. campestre.	E. campestre.	E. campestre.
Cicuta virosa.	C. virosa.	C. virosa.	C. virosa.
Apium graveolens.	A. graveolens.	A. graveolens.	A. graveolens.
Petroselinum sativum.	P. sativum.	P. sativum.	P. sativum.
Petroselinum segetum.	P. segetum.	P. segetum.	P. segetum.
Trinia vulgaris.	T. vulgaris.	T. vulgaris.	T. vulgaris.
Helosciadium nodiflorum.	H. nodiflorum.	H. nodiflorum.	H. nodiflorum.
Helosciadium inundatum.	*H. nodiflorum.*	*H. inundatum.*	*H. inundatum.*
Sison Amomum.	S. Amomum.	S. Amomum.	S. Amomum.
Ægopodium Podagraria.	Æ. Podagraria.	Æ. Podagraria.	Æ. Podagraria.
Carum Carui.	C. Carui.	C. Carui.	C. Carvi.
Carum verticillatum.	C. verticillatum.	C. verticillatum.	C. verticillatum.
Bunium flexuosum.	B. flexuosum.	B. flexuosum.	B. flexuosum.
Bunium Bulbocastanum.	*Carum Bulbocast.*	*Carum Bulbocast.*	*Carum Bulbocast.*
Pimpinella magna.	P. magna.	P. magna.	P. magna.
Pimpinella Saxifraga.	P. Saxifraga.	P. Saxifraga.	P. Saxifraga.
Sium latifolium.	S. latifolium.	S. latifolium.	S. latifolium.
Sium angustifolium.	S. angustifolium.	S. angustifolium.	S. angustifolium.
Bupleurum tenuissimum.	B. tenuissimum.	B. tenuissimum.	B. tenuissimum.
Bupleurum aristatum.	B. aristatum.	B. aristatum.	B. aristatum.
Bupleurum falcatum.	B. falcatum.	B. falcatum.	B. falcatum.
Bupleurum rotundifolium.	B. rotundifolium.	B. rotundifolium.	B. rotundifolium.
Œnanthe fistulosa.	Œ. fistulosa.	Œ. fistulosa.	Œ. fistulosa.
Œnanthe pimpinelloides.	Œ. pimpinelloides.	Œ. pimpinelloides.	Œ. pimpinelloides.
Œnanthe Lachenalii.	*Œ. Lachenalii.*	*Œ. Lachenalii.*	*Œ. pimpinelloides.*
Œnanthe silaifolia.	*Œ. silaifolia.*	*Œ. silaifolia.*	*Œ. pimpinelloides.*

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Œnanthe crocata.	Œ. crocata.	Œ. crocata.	Œ. crocata.
Œnanthe Phellandrium.	Œ. Phellandrium.	Œ. Phellandrium.	Œ. Phellandrium.
Œnanthe fluviatilis.	*Œ. fluviatilis.*	*Œ. fluviatilis.*	*Œ. Phellandrium.*
Œnanthe Cynapium.	Œ. Cynapium.	Œ. Cynapium.	Œ. Cynapium.
Fœniculum officinale.	*F. officinale.*	*F. vulgare.*	*F. vulgare.*
Seseli Libanotis.	S. Libanotis.	S. Libanotis.	S. Libanotis.
Haloscias scoticum.	*Ligusticum scotic.*	*Ligusticum scotic.*	*Ligusticum scotic.*
Silaus pratensis.	S. pratensis.	S. pratensis.	S. pratensis.
Meum athamanticum.	M. athamanticum.	M. athamanticum.	M. athamanticum.
Crithmum maritimum.	C. maritimum.	C. maritimum.	C. maritimum.
Angelica sylvestris.	A. sylvestris.	A. sylvestris.	A. sylvestris.
Peucedanum officinale.	P. officinale.	P. officinale.	P. officinale.
Peucedanum palustre.	P. palustre.	P. palustre.	P. palustre.
Peucedanum Ostruthium.	P. Ostruthium.	P. Ostruthium.	P. Ostruthium.
Pastinaca sativa.	P. sativa.	P. sativa.	P. sativa.
Heracleum Sphondylium.	H. Sphondylium.	H. Sphondylium.	H. Sphondylium.
Tordylium maximum.	T. maximum.	T. maximum.	T. maximum.
Daucus Carota.	D. Carota.	D. Carota.	D. Carota.
Daucus gemmifer.	*D. maritimus.*	*D. maritimus.*	*D. Carota.*
Caucalis daucoides.	C. daucoides.	C. daucoides.	C. daucoides.
Caucalis latifolia.	C. latifolia.	C. latifolia.	C. latifolia.
Torilis Anthriscus.	*T. Anthriscus.*	*T. Anthriscus.*	*CaucalisAnthriscus.*
Torilis infesta.	*T. infesta.*	*T. infesta.*	*Caucalis infesta.*
Torilis nodosa.	*T. nodosa.*	*T. nodosa.*	*Caucalis nodosa.*
Scandix Pecten-Veneris.	S. Pecten.	S. Pecten.	S. Pecten.
Anthriscus sylvestris.	*A. sylvestris.*	*A. sylvestris.*	*Chærophyllum sylv.*
Anthriscus Cerefolium.	A. Cerefolium.	A. Cerefolium.	(Cultivated.)
Anthriscus vulgaris.	*A. vulgaris.*	*A. vulgaris.*	*Chærophyl. Anthris.*
Chærophyllum temulum.	C. temulentum.	C. temulentum.	C. temulum.
Myrrhis odorata.	M. odorata.	M. odorata.	M. odorata.
Echinophora spinosa.	(Excluded.)	E. spinosa.	(Excluded.)
Conium maculatum.	C. maculatum.	C. maculatum.	C. maculatum.
Physospermum cornubiense.	P. cornubiense.	P. cornubiense.	P. cornubiense.
Smyrnium Olusatrum.	S. Olusatrum.	S. Olusatrum.	S. Olusatrum.
Coriandrum sativum.	C. sativum.	C. sativum.	C. sativum.
Adoxa Moschatellina.	A. Moschatellina.	A. Moschatellina.	A. Moschatellina.
Hedera Helix.	H. Helix.	H. Helix.	H. Helix.
Cornus sanguinea.	C. sanguinea.	C. sanguinea.	C. sanguinea.
Cornus suecica.	C. suecica.	C. suecica.	C. suecica.
Viscum album.	V. album.	V. album.	V. album.
Sambucus Ebulus.	S. Ebulus.	S. Ebulus.	S. Ebulus.
Sambucus nigra.	S. nigra.	S. nigra.	S. nigra.
Viburnum Lantana.	V. Lantana.	V. Lantana.	V. Lantana.
Viburnum Opulus.	V. Opulus.	V. Opulus.	V. Opulus.
Lonicera Caprifolium.	L. Caprifolium.	L. Caprifolium.	L. Caprifolium.
Lonicera Periclymenum.	L. Periclymenum.	L. Periclymenum.	L. Periclymenum.
Lonicera Xylosteum.	L. Xylosteum.	L. Xylosteum.	L. Xylosteum.

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Linnæa borealis.	L. borealis.	L. borealis.	L. borealis.
Sherardia arvensis.	S. arvensis.	S. arvensis.	S. arvensis.
Asperula cynanchica.	A. cynanchica.	A. cynanchica.	A. cynanchica.
Asperula odorata.	A. odorata.	A. odorata.	A. odorata.
Galium boreale.	G. boreale.	G. boreale.	G. boreale.
Galium cruciatum.	G. cruciatum.	G. cruciatum.	G. Cruciata.
Galium tricorne.	G. tricorne.	G. tricorne.	G. tricorne.
Galium Aparine.	G. Aparine.	G. Aparine.	G. Aparine.
Galium spurium.	(*Excluded.*)	*G. spurium.*	*G. Aparine.*
Galium parisiense.	*G. anglicum.*	*G. parisiense.*	*G. parisiense.*
Galium erectum.	*G. erectum.*	*G. erectum.*	*G. Mollugo.*
Galium Mollugo.	G. Mollugo.	G. Mollugo.	G. Mollugo.
Galium verum.	G. verum.	G. verum.	G. verum.
Galium saxatile.	G. saxatile.	G. saxatile.	G. saxatile.
Galium montanum.	*G. sylvestre.*	*G. saxatile.*	*G. saxatile.*
Galium commutatum.	*G. sylvestre.*	*G. saxatile.*	*G. saxatile.*
Galium sylvestre.	*G. sylvestre.*	*G. pusillum.*	*G. saxatile.*
Galium uliginosum.	G. uliginosum.	G. uliginosum.	G. uliginosum.
Galium palustre.	G. palustre.	G. palustre.	G. palustre.
Galium elongatum.	*G. palustre.*	*G. palustre.*	*G. palustre.*
Rubia peregrina.	R. peregrina.	R. peregrina.	R. peregrina.
Centranthus ruber.	C. ruber.	C. ruber.	C. ruber.
Valeriana officinalis.	V. officinalis.	V. officinalis.	V. officinalis.
Valeriana sambucifolia.	*V. officinalis.*	*V. officinalis.*	*V. officinalis.*
Valeriana pyrenaica.	V. pyrenaica.	V. pyrenaica.	V. pyrenaica.
Valeriana dioica.	V. dioica.	V. dioica.	V. dioica.
Valerianella olitoria.	*Fedia olitoria.*	*Fedia olitoria.*	*V. olitoria.*
Valerianella carinata.	*Fedia carinata.*	*Fedia carinata.*	*V. carinata.*
Valerianella Auricula.	*Fedia Auricula.*	*Fedia Auricula.*	*V. Auricula.*
Valerianella dentata.	*Fedia dentata.*	*Fedia dentata.*	*V. dentata.*
Valerianella eriocarpa.	(*Excluded.*)	*F. dentata.*	*V. dentata.*
Dipsacus sylvestris.	D. sylvestris.	D. sylvestris.	D. sylvestris.
Dipsacus pilosus.	D. pilosus.	D. pilosus.	D. pilosus.
Knautia arvensis.	*K. arvensis.*	*K. arvensis.*	*Scabiosa arvensis.*
Scabiosa succisa.	S. succisa.	S. succisa.	S. succisa.
Scabiosa Columbaria.	S. Columbaria.	S. Columbaria.	S. Columbaria.
Eupatorium cannabinum.	E. cannabinum.	E. cannabinum.	E. cannabinum.
Petasites vulgaris.	*P. vulgaris.*	*P. vulgaris.*	*Tussilago Petasites.*
Tussilago Farfara.	T. Farfara.	T. Farfara.	T. Farfara.
Aster Tripolium.	A. Tripolium.	A. Tripolium.	A. Tripolium.
Erigeron canadensis.	E. canadensis.	E. canadensis	E. canadensis.
Erigeron acris.	E. acris.	E. acris.	E. acris.
Erigeron alpinus.	E. alpinus.	E. alpinus.	E. alpinus.
Bellis perennis.	B. perennis.	B. perennis.	B. perennis.
Solidago Virgaurea.	S. Virgaurea.	S. Virgaurea.	S. Virga-aurea.
Linosyris vulgaris.	*Chrysocoma Linosyris.*	*L. vulgaris.*	*L. vulgaris.*
Inula Helenium.	I. Helenium.	I. Helenium.	I. Helenium.

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Inula Conyza.	I. Conyza.	I. Conyza.	I. Conyza.
Inula crithmoides.	I. crithmoides.	I. crithmoides.	I. crithmoides.
Pulicaria vulgaris.	*P. vulgaris.*	*P. vulgaris.*	*Inula Pulicaria.*
Pulicaria dysenterica.	*P. dysenterica.*	*P. dysenterica.*	*Inula dysenterica.*
Bidens tripartita.	B. tripartita.	B. tripartita.	B. tripartita.
Bidens cernua.	B. cernua.	B. cernua.	B. cernua.
Anthemis arvensis.	A. arvensis.	A. arvensis.	A. arvensis.
Anthemis Cotula.	A. Cotula.	A. Cotula.	A. Cotula.
Anthemis nobilis.	A. nobilis.	A. nobilis.	A. nobilis.
Achillea Ptarmica.	A. Ptarmica.	A. Ptarmica.	A. Ptarmica.
Achillea tomentosa.	(Excluded.)	A. tomentosa.	(Excluded.)
Achillea Millefolium.	A. Millefolium.	A. Millefolium.	A. Millefolium.
Achillea tanacetifolia.	(Excluded.)	A. tanacetifolia.	(Excluded.)
Diotis maritima.	D. maritima.	D. maritima.	D. maritima.
Chrysanthemum Leucanth.	C. Leucanthemum.	C. Leucanthemum.	C. Leucanthemum.
Chrysanthemum segetum.	C. segetum.	C. segetum.	C. segetum.
Matricaria Parthenium.	*Pyrethrum Parth.*	*M. Parthenium.*	*Chrys. Parthenium.*
Matricaria inodora.	*Pyrethrum inodora.*	*Matricaria inodor.*	*Chrysan. inodorum.*
Matricaria Chamomilla.	M. Chamomilla.	M. Chamomilla.	M. Chamomilla.
Artemisia Absinthium.	A. Absinthium.	A. Absinthium.	A. Absinthium.
Artemisia campestris.	A. campestris.	A. campestris.	A. campestris.
Artemisia vulgaris.	A. vulgaris.	A. vulgaris.	A. vulgaris.
Artemisia maritima.	A. maritima.	A. maritima.	A. maritima.
Tanacetum vulgare.	T. vulgare.	T. vulgare.	T. vulgare.
Filago germanica.	*F. germanica.*	*F. germanica.*	*Gnapha. german.*
Filago apiculata.	*F. apiculata.*	*F. germanica.*	*Gnapha. german.*
Filago spathulata.	*F. spathulata.*	*F. germanica.*	*Gnapha. german.*
Filago minima.	*F. minima.*	*F. minima.*	*Gnapha. arvense.*
Filago gallica.	*F. gallica.*	*F. gallica.*	*Gnaph. gallicum.*
Gnaphalium luteo-album.	"Sarnian."	G. luteo-album.	G. luteo-album.
Gnaphalium uliginosum.	G. uliginosum.	G. uliginosum.	G. uliginosum.
Gnaphalium sylvaticum.	G. sylvaticum.	G. sylvaticum.	G. sylvaticum.
Gnaphalium norvegicum.	*G. norvegicum.*	*G. sylvaticum.*	*G. sylvaticum.*
Gnaphalium supinum.	G. supinum.	G. supinum.	G. supinum.
Antennaria dioica.	*Gnapha. dioicum.*	*Antennaria dioica.*	*Gnapha. dioicum.*
Antennaria margaritacea.	*Gnapha. margarit.*	*Antennaria marg.*	*Gnapha. margarit.*
Doronicum Pardalianches.	D. Pardalianches.	D. Pardalianches.	D. Pardalianches.
Doronicum plantagineum.	D. plantagineum.	D. plantagineum.	D. plantagineum.
Senecio vulgaris.	S. vulgaris.	S. vulgaris.	S. vulgaris.
Senecio viscosus.	S. viscosus.	S. viscosus.	S. viscosus.
Senecio sylvaticus.	S. sylvaticus.	S. sylvaticus.	S. sylvaticus.
Senecio squalidus.	S. squalidus.	S. squalidus.	S. squalidus.
Senecio erucifolius.	*S. erucæfolius.*	*S. tenuifolius.*	*S. erucæfolius.*
Senecio Jacobæa.	S. Jacobæa.	S. Jacobæa.	S. Jacobæa.
Senecio aquaticus.	S. aquaticus.	S. aquaticus.	S. aquaticus.
Senecio paludosus.	S. paludosus.	S. paludosus.	S. paludosus.
Senecio saracenicus.	S. saracenicus.	S. saracenicus.	S. saracenicus.

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Senecio palustris.	*Cineraria palustris.*	*Senecio palustris.*	*Senecio palustris.*
Senecio campestris.	*Cineraria campest.*	*Senecio campest.*	*Senecio campestris.*
Saussurea alpina.	S. alpina.	S. alpina.	S. alpina.
Carlina vulgaris.	C. vulgaris.	C. vulgaris.	C. vulgaris.
Arctium tomentosum.	*A. Lappa.*	*A. Lappa.*	*A. Lappa.*
Arctium majus.	*A. Lappa.*	*A. Lappa.*	*A. Lappa.*
Arctium intermedium.	*A. Lappa.*	*A. Lappa.*	*A. Lappa.*
Arctium minus.	*A. Lappa.*	*A. Lappa.*	*A. Lappa.*
Arctium pubens.	*A. Lappa.*	*A. Lappa.*	*A. Lappa.*
Serratula tinctoria.	S. tinctoria.	S. tinctoria.	S. tinctoria.
Centaurea nigra.	C. nigra.	C. nigra.	C. nigra.
Centaurea nigrescens.	*C. nigrescens.*	*C. nigrescens.*	*C. nigra.*
Centaurea Cyanus.	C. Cyanus.	C. Cyanus.	C. Cyanus.
Centaurea Scabiosa.	C. Scabiosa.	C. Scabiosa.	C. Scabiosa.
Centaurea solstitialis.	C. solstitialis.	C. solstitialis.	C. solstitialis.
Centaurea Calcitrapa.	C. Calcitrapa.	C. Calcitrapa.	C. Calcitrapa.
Onopordum Acanthium.	O. Acanthium.	O. Acanthium.	O. Acanthium.
Carduus nutans.	C. nutans.	C. nutans.	C. nutans.
Carduus crispus.	*C. acanthoides.*	*C. acanthoides.*	*C. acanthoides.*
Carduus tenuiflorus.	*C. tenuiflorus.*	*C. tenuiflorus.*	*C pycnocephalus.*
Carduus lanceolatus.	*C. lanceolatus.*	*Cnicus lanceol.*	*Carduus lanceol.*
Carduus eriophorus.	*C. eriophorus.*	*Cnicus eriophorus.*	*Carduus eriophorus.*
Carduus arvensis.	*C. arvensis.*	*Cnicus arvensis.*	*Carduus arvensis.*
Carduus palustris.	*C. palustris.*	*Cnicus palustris.*	*Carduus palustris.*
Carduus pratensis.	*C. pratensis.*	*Cnicus pratensis.*	*Carduus pratensis.*
Carduus tuberosus.	*C. tuberosus.*	*Cnicus tuberosus.*	*Carduus tuberosus.*
Carduus acaulis.	*C. acaulis.*	*Cnicus acaulis.*	*Carduus acaulis.*
Carduus heterophyllus.	*C. heterophyllus.*	*Cnicus heterophyl.*	*Carduus heterophyl.*
Silybum Marianum.	*Carduus Marianus.*	*Carduus Marianus.*	*Carduus Marianus.*
Lapsana communis.	L. communis.	L. communis.	L. communis.
Arnoseris pusilla.	*A. pusilla.*	*Lapsana pusilla.*	*Arnoseris pusilla.*
Cichorium Intybus.	C. Intybus.	C. Intybus.	C. Intybus.
Hypochœris glabra.	H. glabra.	H. glabra.	H. glabra.
Hypochœris radicata.	H. radicata.	H. radicata.	H. radicata.
Hypochœris maculata.	H. maculata.	H. maculata.	H. maculata.
Thrincia hirta.	*T. hirta.*	*T. hirta.*	*Leontodon hirtus.*
Apargia hispida.	*A. hispida.*	*A. hispida.*	*Leontodon hispidus.*
Apargia autumnalis.	*A. autumnalis.*	*A. autumnalis.*	*Leontodon autumn.*
Tragopogon minor.	*T. pratensis.*	*T. pratensis.*	*T. pratense.*
Tragopogon pratensis.	T. pratensis.	T. pratensis.	T. pratense.
Tragopogon porrifolius.	T. porrifolius.	T. porrifolius.	T. porrifolium.
Picris hieracioides.	P. hieracioides.	P. hieracioides.	P. hieracioides.
Helminthia echioides.	H. echioides.	H. echioides.	H. echioides.
Lactuca saligna.	L. saligna.	L. saligna.	L. saligna.
Lactuca virosa.	*L. virosa.*	*L. virosa.*	*L. Scariola.*
Lactuca Scariola.	L. Scariola.	L. Scariola.	L. Scariola.
Lactuca muralis.	L. muralis.	L. muralis.	L. muralis.

BABINGTON.	LOND. CAT.	HOOKER & ARNOTT.	BENTHAM.
Leontodon Taraxacum.	*Taraxicum officinale.*	*Leontodon Tarax.*	*Tarax. Dens-leonis.*
Sonchus oleraceus.	S. oleraceus.	S. oleraceus.	S. oleraceus.
Sonchus asper.	*S. asper.*	*S. asper.*	*S. oleraceus.*
Sonchus arvensis.	S. arvensis.	S. arvensis.	S. arvensis.
Sonchus palustris.	S. palustris.	S. palustris.	S. palustris.
Mulgedium alpinum.	*M. alpinum.*	*M. alpina.*	*Sonchus alpinus.*
Crepis taraxacifolia.	*Borkhausia taraxa.*	*Borkhausia taraxa.*	*Crepis taraxacif.*
Crepis fœtida.	*Borkhausia fœtida.*	*Borkhausia fœtida.*	*Crepis fœtida.*
Crepis virens.	C. virens.	C. virens.	C. virens.
Crepis biennis.	C. biennis.	C. biennis.	C. biennis.
Crepis succisæfolia.	*C. succisæfolia.*	*C. succisæfolia.*	*C. hieracioides.*
Crepis paludosa.	C. paludosa.	C. paludosa.	C. paludosa.
Hieracium Pilosella.	H. Pilosella.	H. Pilosella.	H. Pilosella.
Hieracium aurantiacum.	H. aurantiacum.	H. aurantiacum.	Not established.
Hieracium alpinum.	H. alpinum.	H. alpinum.	H. alpinum.
Hieracium holosericeum.	*H. holosericeum.*	*H. alpinum.*	*A variety.*
Hieracium eximium.	*H. eximium.*	*H. eximium.*	*A variety.*
Hieracium calenduliflorum.	*H. calenduliflorum.*	*H. eximium.*	*A variety.*
Hieracium gracilentum.	*H. gracilentum.*	*H. gracilentum.*	*A variety.*
Hieracium globosum.	*H. globosum.*	*H. globosum.*	*A variety.*
Hieracium nigrescens.	*H. nigrescens.*	*H. nigrescens.*	*? H. murorum.*
Hieracium lingulatum.	*H. lingulatum.*	*H. lingulatum.*	*A variety.*
Hieracium senescens.	*H. senescens.*	*H. chrysanthum.*	*A variety.*
Hieracium chrysanthum.	*H. chrysanthum.*	*H. chrysanthum.*	*A variety.*
Hieracium cerinthoides.	*H. anglicum.*	*H. cerinthoides.*	*H. cerinthoides.*
Hieracium iricum.	*H. iricum.*	*H. Iricum.*	*H. murorum.*
Hieracium pallidum.	*H. pallidum.*	*H. pallidum.*	*A variety.*
Hieracium lasiophyllum.	*H. lasiophyllum.*	*H. lasiophyllum.*	*A variety.*
Hieracium Gibsoni.	*H. Gibsoni.*	*A. Gibsoni.*	*A variety.*
Hieracium argenteum.	*H. argenteum.*	*H. argenteum.*	*A variety.*
Hieracium nitidum.	*H. nitidum.*	*H. nitidum.*	*A variety.*
Hieracium aggregatum.	*H. aggregatum.*	*H. aggregatum.*	*A variety.*
Hieracium murorum.	H. murorum.	H. murorum.	H. murorum.
Hieracium cæsium.	*H. cæsium.*	*H. cæsium.*	*A variety.*
Hieracium cæsium.	*H. obtusifolium.*	*H. cæsium.*	*A variety.*
Hieracium stelligerum.	*H. flocculosum.*	*H. stelligerum.*	*A variety.*
Hieracium vulgatum.	*H. vulgatum.*	*H. sylvaticum.*	*H. murorum.*
Hieracium gothicum.	*H. gothicum.*	*H. gothicum.*	*A variety.*
Hieracium tridentatum.	*H. tridentatum.*	*H. tridentatum.*	*A variety.*
Hierac. prenanthoides.	H. prenanthoides.	H. prenanthoides.	H. prenanthoides.
Hieracium strictum.	*H. strictum.*	*H. strictum.*	*A variety.*
Hieracium umbellatum.	H. umbellatum.	H. umbellatum.	H. umbellatum.
Hieracium crocatum.	*H. crocatum.*	*H. crocatum.*	*A variety.*
Hieracium rigidum.	*H. rigidum.*	*H. rigidum.*	*A variety.*
Hieracium corymbosum.	*H. corymbosum.*	*H. corymbosum.*	*A variety.*

(*To be continued.*)

BOTANICAL NOTES, NOTICES, AND QUERIES.

MAIANTHEMUM BIFOLIUM.

I met with this plant in abundance early this summer, in the locality near Hackness (a few miles from Scarborough), where it was discovered two (?) years ago. It is growing in the utmost profusion, among *Trientalis europæa*, Vacciniums, Luzulas, etc., on the slope of a steep brow covered with scattered trees. I purposely omit giving a definite description of the place. Suffice it only to say that before knowing *where the plant was*, I decided where, *if it were a native*, it "*ought to be*." This was determined partly by the aspect, partly by the general configuration of the country, and partly by the kind of vegetation clothing the district; and proved quite correct. Never, in Norway, did I see it more abundant or finer, that I remember. For a considerable distance the hillside is carpeted with it. It is not however the quantity merely, but, as said before, the general circumstances and position of the locality, which leave no doubt whatever on my mind of its being a genuine native.

JAS. BACKHOUSE, Jun.

[It may here be remarked that the question about the nativity of *Maianthemum* is *now* settled. It may also be inferred that all the other recorded localities, viz. Ken wood, near Hampstead; Woburn woods, in Bedfordshire; the woods at Howick, Northumberland; and even Dingley wood, six miles from Preston in Aundernisse; and "Harwood, neere to Blackburne" likewise, are or have been genuine stations where this rare species either grows or has been seen growing. One or both of these anciently known localities are recommended to the attention of our botanical correspondents in Preston and Lancashire.]

HERBARIUM OF NORTH GERMAN PLANTS.

By W. Lasch and C. Bänit. (First and Second Fascicles.)

The cryptogamic portion of this work has just reached us, and we have much pleasure in recommending it to British botanists in general, and to the readers of the 'Phytologist' especially.

The specimens are well dried and pressed, and carefully strapped on white paper. The attached tickets are neatly printed, and contain the name of the species, with the authority, the habitat, the soil, the census, the time, the special locality, and the name of the collector.

This publication is marvellously cheap, even in these times of cheap publications. The price of the two parts before us is five shillings, and the number of specimens is forty-nine. In addition there is a printed index, and a preface to the whole.

The paper on which the specimens are fixed, and the boards in which all are placed, with the printed sheet, surely cannot cost the publishers much less than a shilling. Hence the price of each specimen is rather less than a penny. Surely this is a bargain.

But cheapness is not the sole quality of the work, it will be eminently useful, especially to societies and to botanists whose herbarium is not very comprehensive. The north of Germany produces nearly all our British plants, and several species which are not natives of our kingdom, and consequently this issue of specimens accompanied with the modern names will be a convenient herbarium for reference to all who study the native plants of the British Isles.

NOTE ON HYPERICUM HIRSUTUM.

(See 'Phytologist' for July, 1861, p. 203.)

Last Wednesday, the 12th of June, 1861, while we were walking along the Finchley road which unites the Great North Road by Barnet with the north-west of London, and about a mile below Finchley, and about as far from Golder's Green on the Hampstead road to Hendon, there is a deep depression in the surface, with a small brook at its bottom, on the side of which we saw several plants of *Hypericum hirsutum*, not then in flower. We went down from the road in hopes of seeing *Myosurus minimus* in a cornfield on the left-hand side of the road: cornfields are rarities in this part of Middlesex. The Mousetail was invisible, but the St. John's-wort was not; and the *Scirpus sylvaticus* was plentiful, and not much shorter than two yards of good measure.

BOTANY OF MAURITIUS.

(*From the 'Gardeners' Chronicle,' Jan.* 1861.)

I will take the liberty of asking you, as you have adverted to the subject, to inform the public that a Flora of Mauritius is in progress, and that it will be completed with as much speed as is consistent with correctness, and as my public duties will permit. I am quite certain that none but a resident botanist can give good descriptions, for I find every now and then considerable errors in De Candolle, Sprengel, and other books, arising from the descriptions having been drawn up from dried specimens. The Cryptogamous Flora below the Ferns is almost uninvaded by former botanists, and will afford to me a very rich harvest in my favourite division of the Vegetable Kingdom, of which I know most of the British species. The Fungi are interesting from their similarity to those of England. I have found numbers of my old friends. The climate is delicious; the winter about the temperature of June, and in the summer the thermometer in the shade rarely rises above 87° Fahr., so that an Englishman with an Englishman's energy can readily go about throughout the entire year, and, as malaria is absolutely unknown, without danger. The fears I have seen expressed that the native Flora of Mauritius will be extirpated by the progress of cultivation is absurd. A few localities may be lost, but from the mountainous character of a considerable part of the island, it is incapable of cultivation, and the majority of the species will always be preserved. Neither do I fear that the island will become barren by destruction of the forests, as it is the mountain-tops that break the clouds, and the rainfall remains the same; but should the forests be destroyed to a large extent, it will then be necessary to have recourse to the storage of water in tanks, which would be readily made by damming the ravines, the sides of the ravines forming three sides of each reservoir, and these sides are often 150 to 200 feet high, and of solid basaltic rock.—PH. B. AYRES.

WORCESTERSHIRE NATURALISTS' CLUB.

The July meeting of this Club was held on Wednesday last, upon the breezy platform of Bredon Hill, but the recent precarious weather acted as a damper upon the ardent volunteers who lately showed such zeal in the cause of practical science at Witley Court, and on the ramparts of Holt Castle. The Rev. D. Melville was, from ecclesiastical business, obliged also to depute Mr. E. Lees, V.P., to act on his behalf, so that with rather a fatiguing route before them, only the more determined and enthusiastic appeared in the field. Among these we observed Dr. Buchanan Holl (Cheltenham), Messrs. J. D. Jeffery, Josiah Jones, G. Beck, H. Lines, E. Gillam, Haywood, Jeffery, Jun., etc.

The upper barren portion of Bredon Hill, bordering on the precipice, displays a natural *Thistlery* unexampled in a highly-cultivated county like Worcester, for whole squadrons of the Great Woolly-headed Thistle (*Carduus eriophorus*) covered the crests of the oolitic escarpment, while the beautiful nodding purple heads of *Carduus nutans* crowded the undulating grounds by hundreds in close spinous array at the foot of the precipice. The Spear Thistle (*Carduus lanceolatus*) also grew peculiarly horrent, while wherever the native turf appeared on the table land of the top of the hill, the Stemless Thistle (*Cnicus acaulis*) was seen in flower in great abundance and luxuriance. Of course *Carlina vulgaris*, rather dwarf, exhibited itself on the heights. Other plants characteristic of Bredon botany that presented themselves, were Squinancy-wort (*Asperula cynanchica*), not found elsewhere in the county, though abundant here; *Acinos vulgaris* (both purple and white flowers), *Scabiosa Columbaria*, *Specularia hybrida*, *Spiræa Filipendula*, *Sedum acre*, *Geranium columbinum*, *Onobrychis sativa*, and *Brachypodium pinnatum*, the latter in excessive quantity on the higher ground. The Bladder-Fern (*Cystopteris fragilis*) was also gathered in crevices of the oolitic precipice. Not a single specimen of Foxglove (*Digitalis*) or *Ulex* was observed anywhere on the hill, though they are so common at Malvern.

CYNOGLOSSUM SYLVATICUM.

I have now, for a period of four or five consecutive seasons, seen this plant in this neighbourhood put forth from the same root, buds and blossoms, and if this fact is not sufficient to prove its perennial duration, I should like to know what is. JOHN SIM.

Bridge End, Perth, May 1861.

Communications have been received from

W. T. Dyer; Sidney Beisly; Professor Babington; John Sim; J. Backhouse, Jun.; Berthold Seemann, Ph.D., F.L.S.; T. W. Gissing; H. Boswell; M. A. Walker; J. S. M.; G. Lamond; Rev. H. A. Walker; William Pamplin, etc.

RECEIVED FOR REVIEW.

The Preston Chronicle, August 7th and 14th.
Ferns, Lycopods, etc. (*See p.* 318).
Notes on Books.

ERRATA.

In the number for September, 1861, p. 260, line 12, for *Lactuca Prenanthes*, read *L. prenanthoides;* and value it as a synonym of *Prenanthes muralis*. Also in p. 274, line 17, for *forms* read *form*.

3 AP 62

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